Wellness & the Chiropractor

Physical Demands: Biomechanics and Loading

Think of the following biomechanical studies in terms of what you do in the clinic and will do in practice

Lumbar Injury Caused by Cyclic Loading

- Repetitive or prolonged anterior flexion has been shown to induce creep in the various passive tissues of the spine (e.g., ligaments, disc, and joint capsule).
- The creep induced in the viscoelastic tissues of the spine as a result of cyclic loading desensitizes the mechanoreceptors within, which is manifest in dramatically diminished muscular activity, allowing full exposure to instability and injury, even before fatigue of the musculature sets in.

Solomonow et.al. Biomechanics of increased exposure to lumbar injury caused by cyclic loading Spine 1999 Dec 1;24(23):2426-34. http://www.ncbi.nlm.nih.gov/pubmed/10626304

Lumbar Injury Caused by Cyclic Loading

- Certain occupational activities such as the cyclic or prolonged anterior flexion commonly performed by factory and warehouse workers, bricklayers, mechanics, and the like are known to result in a 10-fold increase of exposure to low back injury for these workers.
- In such individuals, the injury often occurs after the work is completed while they are performing simple, unloaded movements.

Solomonow et.al. Biomechanics of increased exposure to lumbar injury caused by cyclic loading Spine 1999 Dec 1;24(23):2426-34. http://www.ncbi.nlm.nih.gov/pubmed/10626304

Static Lumbar Flexion in Males and Females

- Static lumbar flexion is an activity that constitutes an occupational risk factor for the development of low back disorder
- Creep developed during a short static lumbar flexion elicited significant changes in the muscular activity pattern
- Spasms were recorded in more than half of the subjects during the static flexion period
- Females demonstrated more pronounced changes than males

Solomonow et.al. 2003 Flexion-relaxation response to static lumbar flexion in males and females http://www.sciencedirect.com.ezproxy.parker.edu/science/article/pii/S026800330300024X

Repetition ⇨ Chronic Low Back Disorder

- While the loads sustained by the joints in each session of static activity are well within the physiologic range of the tissues, the cumulative effects of each session over the workday, over weeks and years, is thought to exceed the physiologic limits and elicit a disorder characterized by chronic pain, weakness, muscle spasms, and classified as disability.

Static load repetition is a risk factor in the development of lumbar cumulative musculoskeletal disorder Sbriccoli et.al. Spine 2004 Dec 1;29(23):2643-53. http://www.ncbi.nlm.nih.gov/pubmed/15564913

Repetition ⇨ Chronic Low Back Disorder

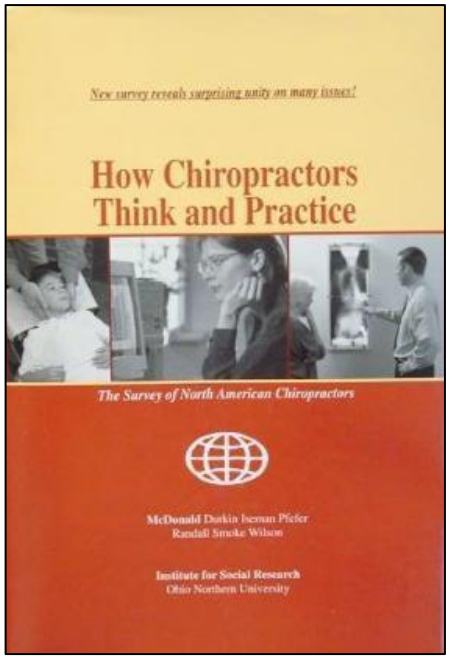
- It appears that if the same kind of work/exercise involving the lumbar spine is repeated over a described number of times, a one-night rest might not be enough to recover from the microdamage initially provoked, and it is reasonable to state that over time the acute inflammation developed might become chronic and elicit a permanent low back disorder

Static load repetition is a risk factor in the development of lumbar cumulative musculoskeletal disorder Sbriccoli et.al. Spine 2004 Dec 1;29(23):2643-53. http://www.ncbi.nlm.nih.gov/pubmed/15564913

How Much **Loading** and **Repetition** do Chiropractors Get?

2003 McDonald Study

How Chiropractors Think and Practice


New survey reveals surprising unity on many issues!
How Chiropractors Think and Practice
The Survey of North American Chiropractors
McDonald Durkin Iserman Pfefer
Randall Smoke Wilson
Institute for Social Research
Ohio Northern University

http://pdn.sciencedirect.com.ezproxy.parker.edu/science?_ob=MiamiImageURL&_cid=273254&_user=498157&_pii=S1543115004000377&_check=y&_origin=browse&_zone=rslt_list_item&_coverDate=2004-09-30&wchp=dGLbVlV-zSkWb&md5=c95fc2d1cb4dd431ff9769591b6e3627&pid=1-s2.0-S1543115004000377-main.pdf&sqtrkid=0.013592905038950165

Average Chiropractic Office

- 100–150 patient visits per week
  - Based upon the 2003 McDonald study
- If each patient is adjusted in only 2 areas and all adjustments succeed

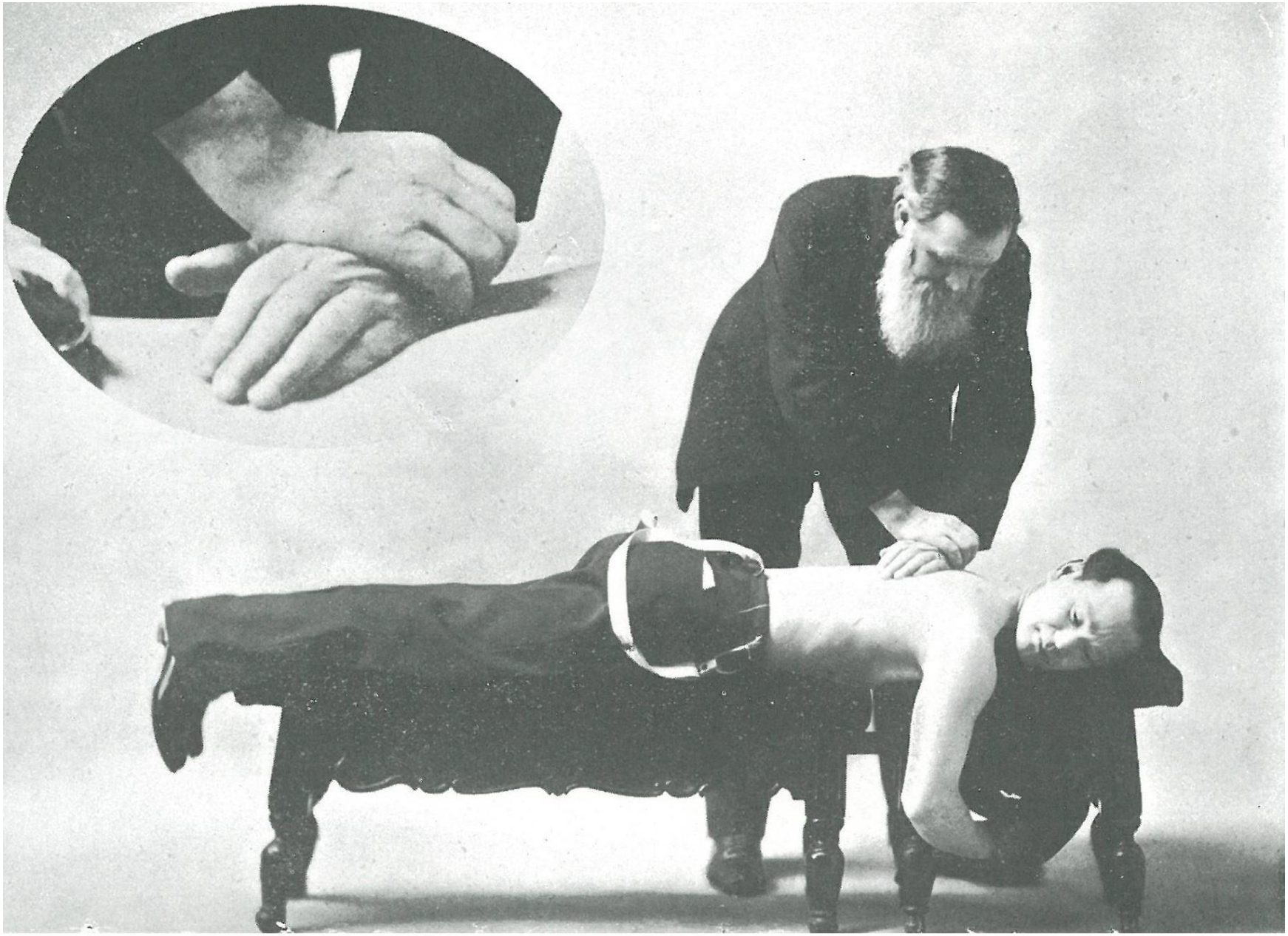
  = 200–300 adjustments per week

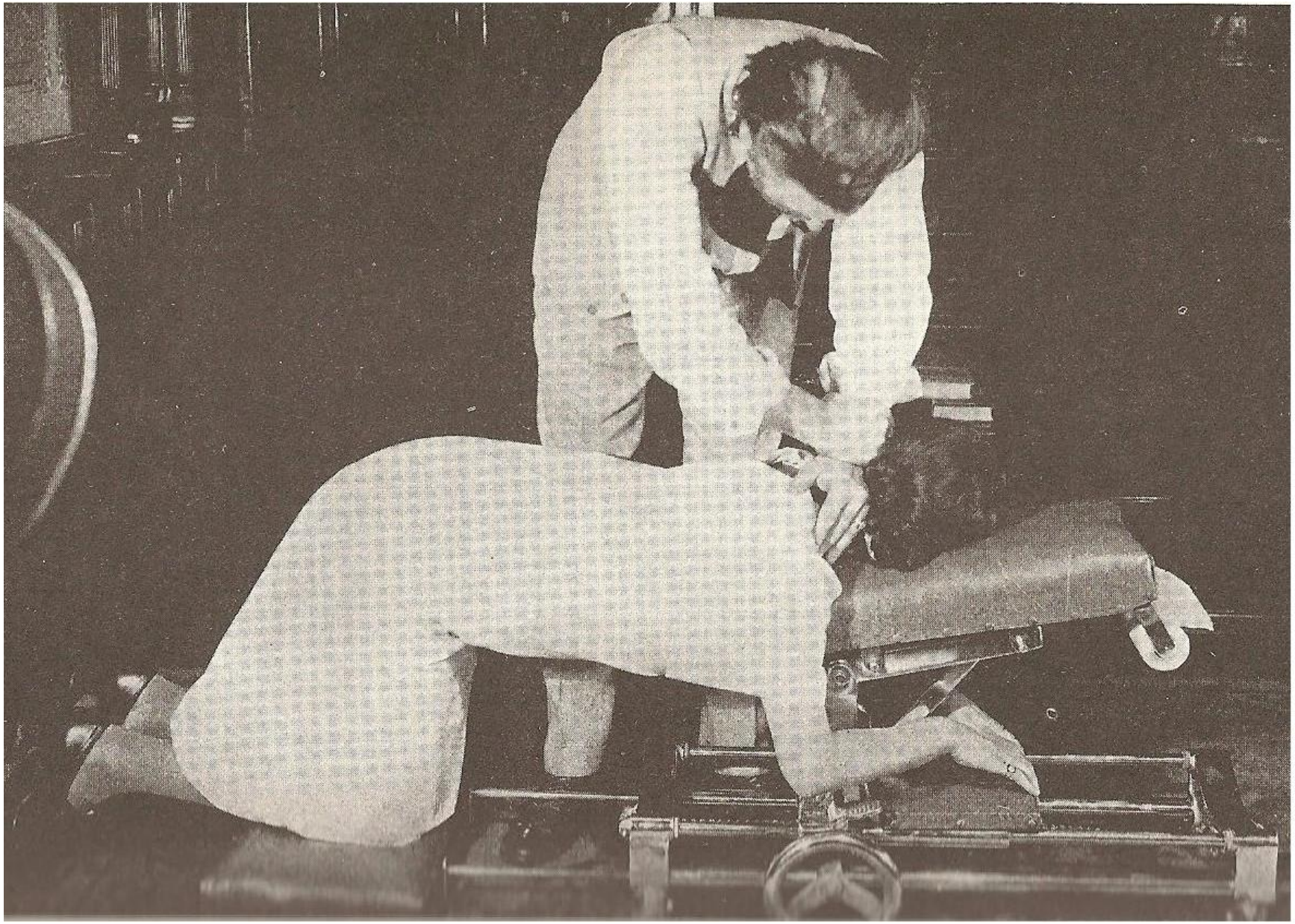
  x 50 weeks (2 weeks vacation)

  = 10,000 to 15,000 adjustments per year!

What does the Average Chiropractor do 10,000-15,000 times per year?

Consider the Biomechanics and loading to the body associated with the following pictures





http://www.youtube.com/watch?v=y1U3WoUVxkM&hd=1

THE FOUR PHASES OF LUMBAR DEGENERATION
PHASE I
PHASE II
PHASE III
PHASE IV
NORMAL
PHASE I
THE MUSCULAR SYSTEM

DISCOVER·CHIROPRACTIC

Work Related Health Care Injuries

- A Bureau of Labor Statistics investigation of occupational hazards in health care settings showed that injury rates among health care workers are high
- These rates are equal to or exceed the injury rates of workers in traditionally high risk occupations

The Canadian Study of LBP

Prevalence of Back Pain in Chiropractors
JMPT Dec 1987
Mior & Diakow

Prevalence of Back Pain in Chiropractors

- An epidemiological survey of 320 Canadian chiropractors
- The overall prevalence of back pain was 87%
- Low back pain was claimed by 74% of responding chiropractors
- Frequent or constant LBP reported by 20%
- Pain that was moderate-severe reported by 42%

J Manipulative Physiol Ther. 1987 Dec;10(6):305-9. http://www.ncbi.nlm.nih.gov/pubmed/2963884

Prevalence of Back Pain in Chiropractors

- Canadian chiropractors had a higher rate of low back pain (74%) than the general population
- Higher rate of low back pain than all other health professions studied at that time
  - Canadian dentists 57%
  - Nurses & physiotherapists 52%
- Heavy physical workers from industry 64%

J Manipulative Physiol Ther. 1987 Dec;10(6):305-9. http://www.ncbi.nlm.nih.gov/pubmed/2963884

Prevalence of Back Pain in Chiropractors

- There was a significant difference between male & female chiropractors in terms of number of injuries:
  - Females had greater thoracic pain
  - Males had greater lumbar/SI pain
- 82% of the chiropractors believed their back pain was aggravated by practice and made changes to avoid pain
- **25% felt that incorrect table height was a factor in production of their back pain**

J Manipulative Physiol Ther. 1987 Dec;10(6):305-9. http://www.ncbi.nlm.nih.gov/pubmed/2963884

Low-Back Loading at Various Table Heights

- For the lumbar and thoracic manipulation tasks, the medium table height (655 mm) was found to create the least low-back strain.
- For the cervical manipulation task, the high table height (845 mm) was found to be the least straining on the low-back.
- The low height table (465 mm) was the most straining for all tasks.

High: 845 mm = 33 inches
Medium: 655 mm = 25.5 inches
Low: 465 mm = 18.1 inches

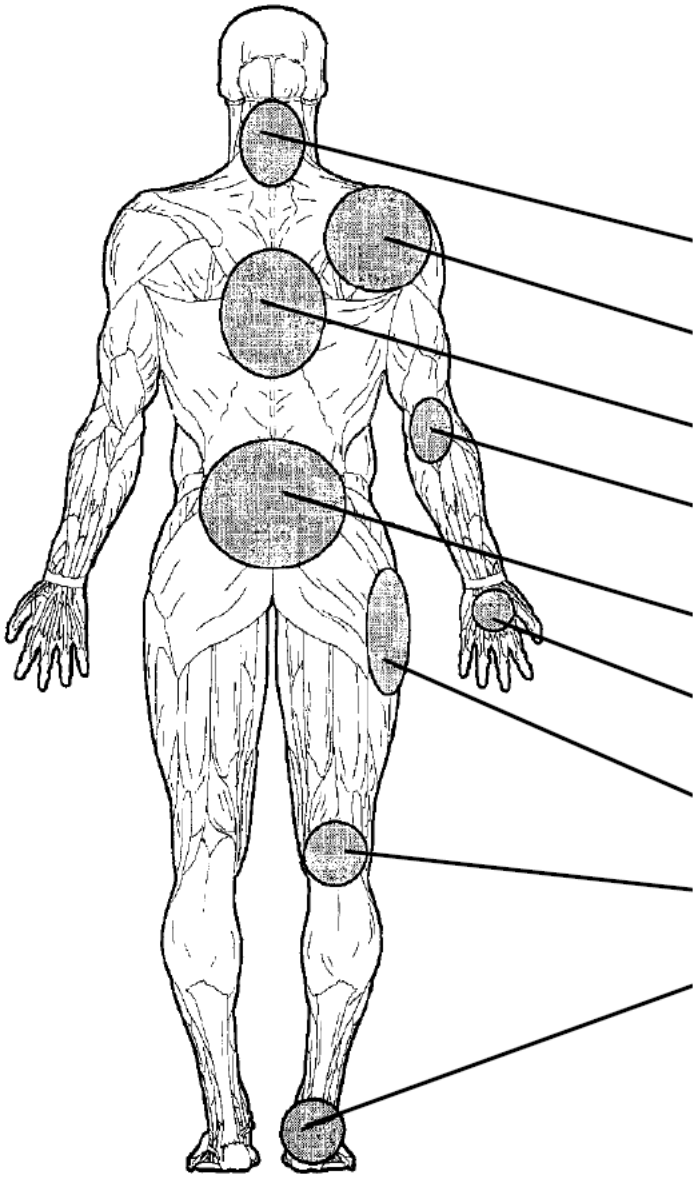
Comparative analysis of low-back loading on chiropractors using various workstation table heights
J Manipulative Physiol Ther. 2003 Jan;26(1):25-33. http://www.ncbi.nlm.nih.gov/pubmed/12532135

Physical Therapy
Journal of the American Physical Therapy Association

Work-Related Musculoskeletal Disorders Among Physical Therapists

Byron E Bork, Thomas M Cook, John C Rosecrance, Kristen A Engelhardt, Mary-Ellen J Thomason, Ivalyn J Wauford and Rachel K Worley

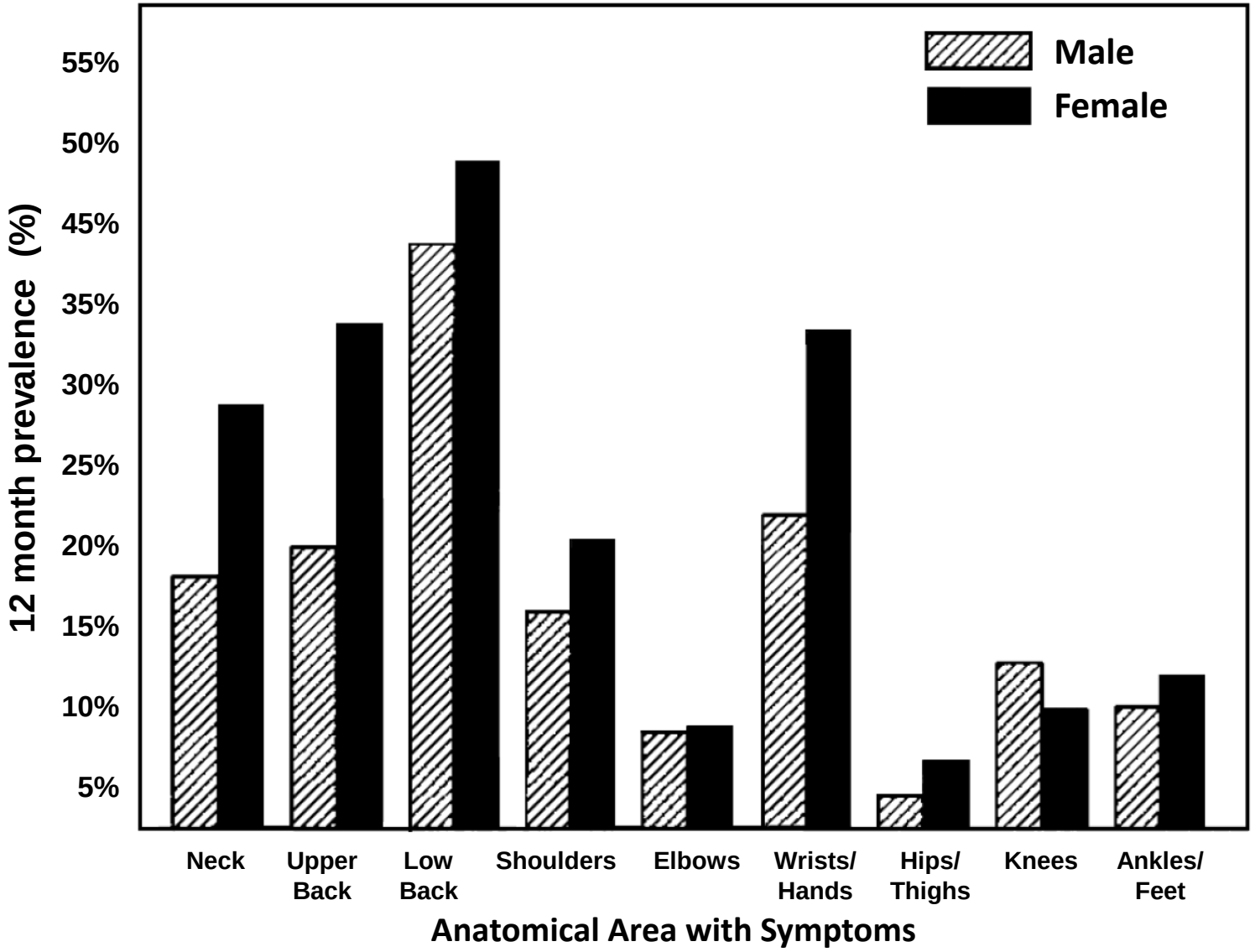
PHYS THER. 1996; 76:827-835.



Anatomical Area	Percent with Symptoms
Neck	24.7%
Shoulders	18.9%
Upper Back	28.7%
Elbows	8.0%
Low Back	**45.0%**
Wrist/Hands	**29.6%**
Hips/Thighs	4.7%
Knees	10.9%
Ankles/Feet	10.7%

Bork et.al. 1996 Work-Related MSDs Among PTs http://www.ncbi.nlm.nih.gov/pubmed/8710962

Male – Female Differences



Bork et.al. 1996 Work-Related MSDs Among PTs http://www.ncbi.nlm.nih.gov/pubmed/8710962

Work-Related MSD's Among PT's

- The prevalence of WMD in physical therapists was affected by work setting, practice specialty, age of patient, and gender of therapist
- Physical therapists who indicated that they routinely performed manual therapy were 3.5 times more likely to have wrist or hand symptoms than those who did not perform these techniques

Bork et.al. 1996 Work-Related MSDs Among PTs http://www.ncbi.nlm.nih.gov/pubmed/8710962

Work-Related MSD's Among PT's

"Although physical therapists have knowledge and clinical expertise in musculoskeletal injuries, these proficiencies do not constitute an immunity to their own work related musculoskeletal disorders"

Bork et.al. 1996 Work-Related MSDs Among PTs http://www.ncbi.nlm.nih.gov/pubmed/8710962

Work-Related MSD's Among PT's

- Specific strategies should be developed to reduce WMD in the practice of physical therapy
- These changes include:
  - reduced scheduling of patients needing manual therapy
  - allowing time for breaks
  - modifying techniques to reduce the amount of stress placed on the wrists and hands

Bork et.al. 1996 Work-Related MSDs Among PTs http://www.ncbi.nlm.nih.gov/pubmed/8710962

Physical Therapy
Journal of the American Physical Therapy Association

Cause, Prevalence, and Response to Occupational Musculoskeletal Injuries Reported by Physical Therapists and Physical Therapist Assistants

Nicole L Holder, Holly A Clark, John M DiBlasio, Carol L Hughes, John W Scherpf, Linn Harding and Katherine F Shepard

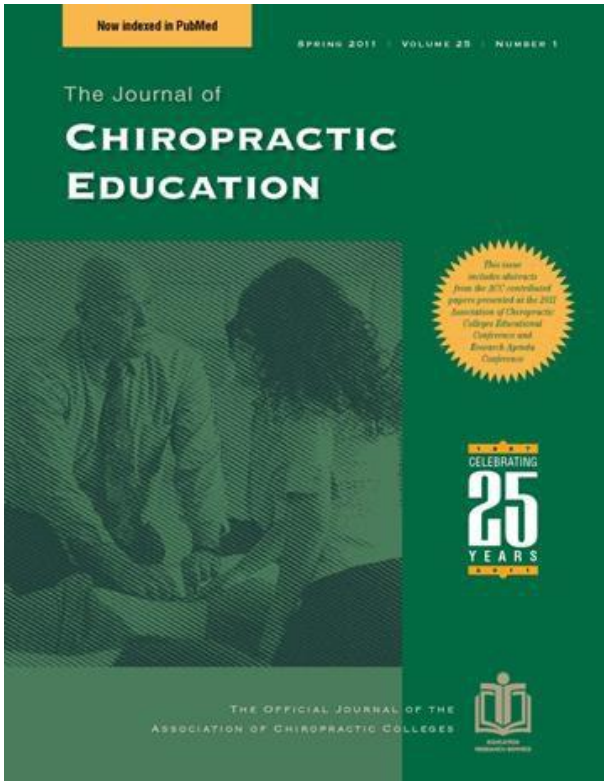
PHYS THER. 1999; 79:642-652.

Altered Work Habits Used By PT's

- Use improved body mechanics
- Increase use of other personnel
- Change working position frequently
- Avoid lifting
- Increase use of mechanical aids
- Take more rest breaks during the workday
- Decrease manual therapy
- Stop working when hurt or when symptoms occur
- Change work schedule, decrease patient care time

http://www.ncbi.nlm.nih.gov/pubmed/10416574 http://ptjournal.apta.org/content/79/7/642.long

Epidemiology of Occupational Injuries in Chiropractic Practice



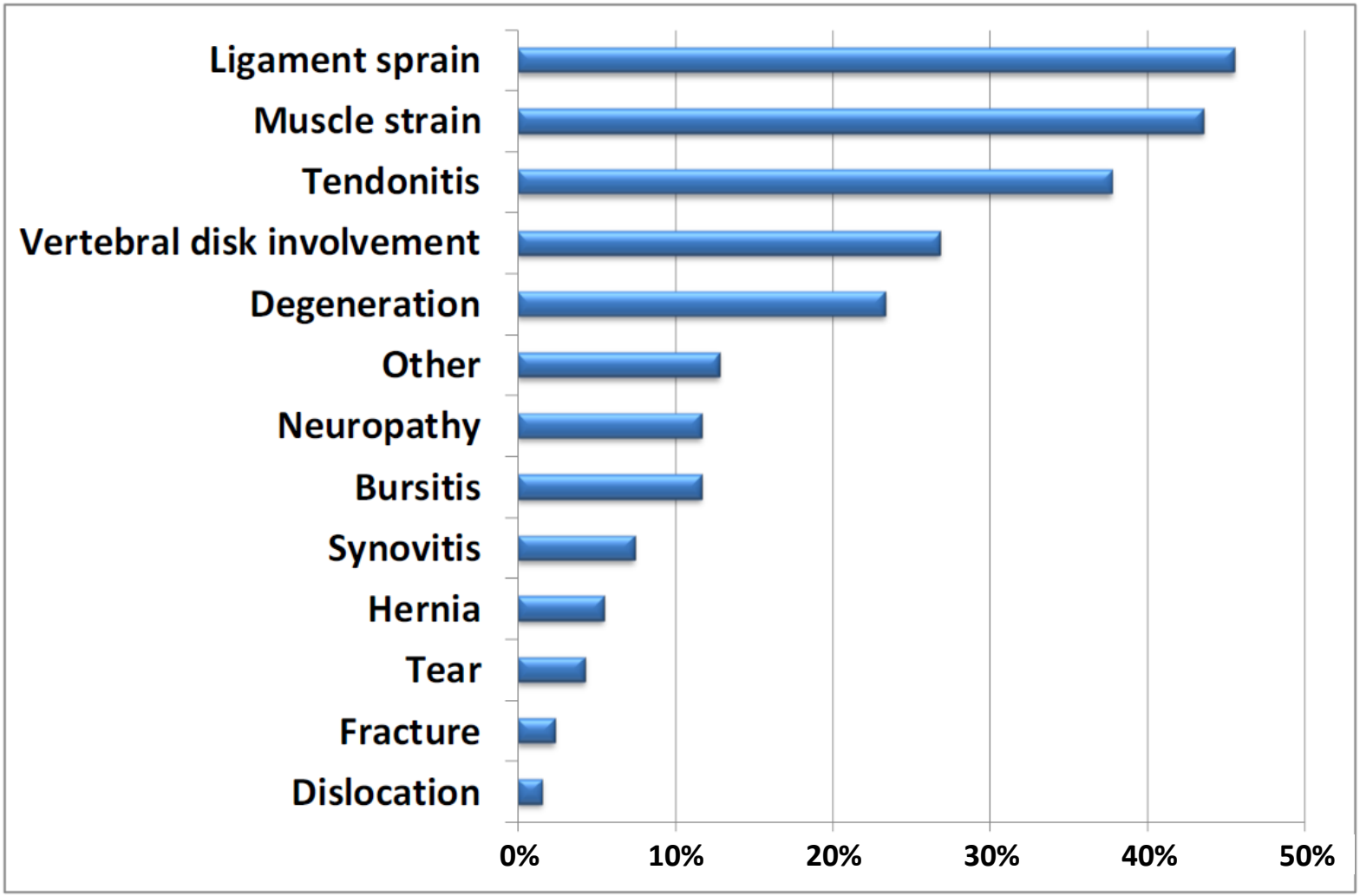
Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Epidemiology of Chiropractic Injuries

- Tasks performed by chiropractors are similar to those engaged in by other health care providers, thus also placing them at high risk of injury
- Respondents (N=451) were primarily male (93%) with a mean of 28 years in practice
- Fifty-seven percent of the respondents reported work-related musculoskeletal injury during their career

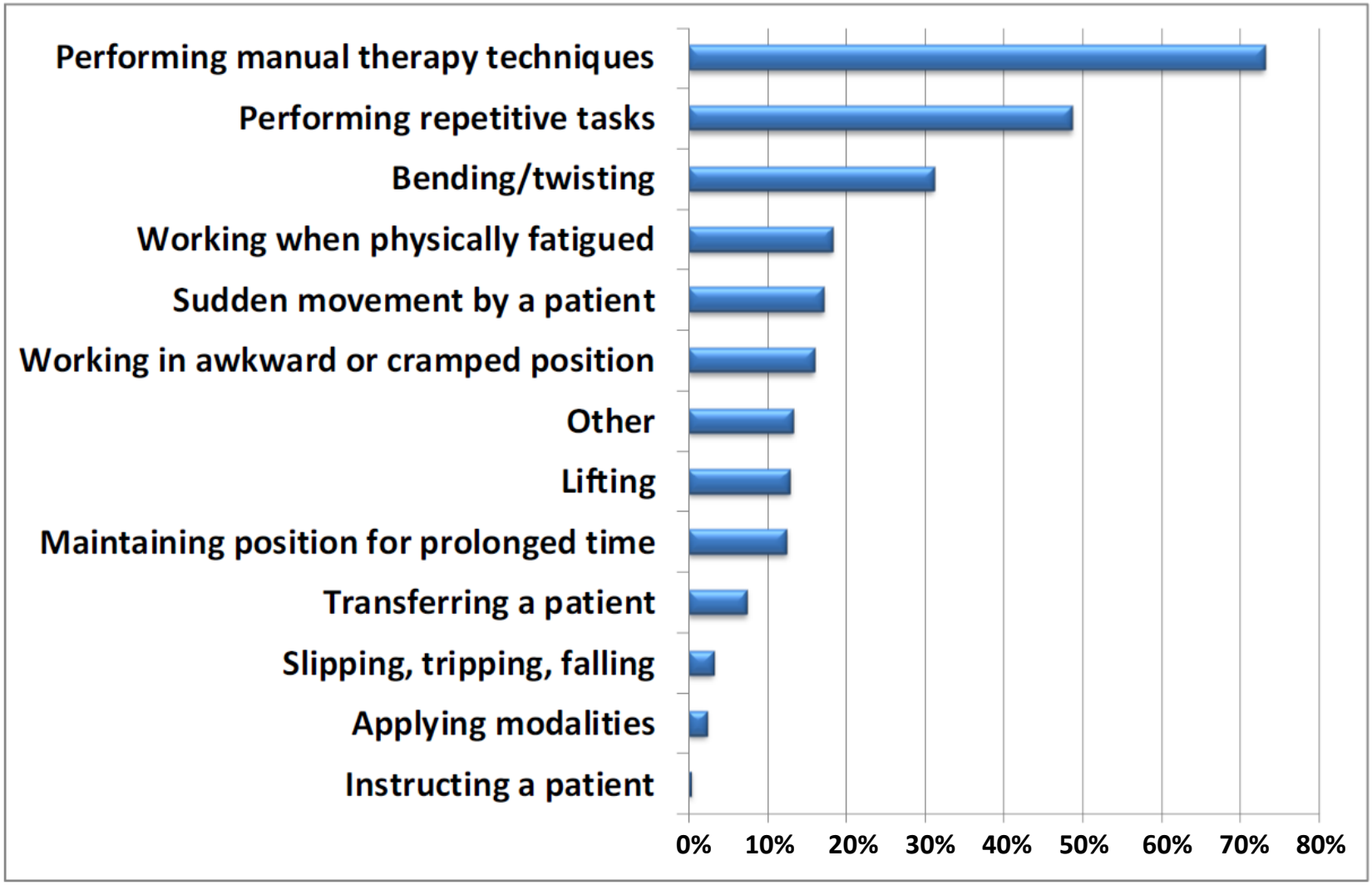
Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Type of Injury



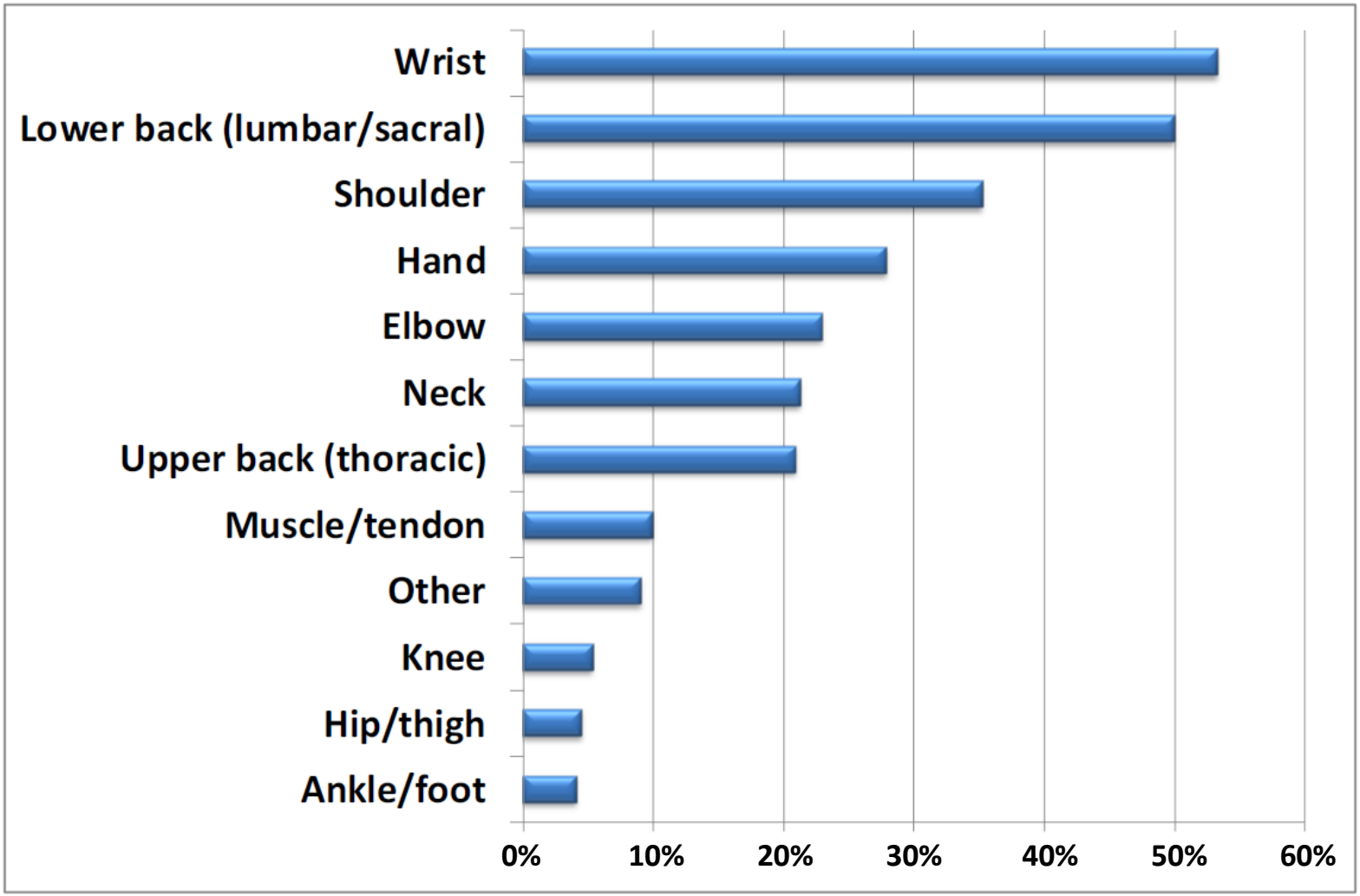
Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Activity Associated with Injury



Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Anatomical Area Injured



Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Injuries to Chiropractors vs. Physical Therapists

Chiropractic		**Physical Therapists**	
Wrist	53.2%	Wrist & hand	29.6%
Hand	27.9%		
Low Back	50%	Low Back	45%

(From Bork 1996)

Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Activities Causing Injuries to **Recur**

- Manual procedures (69%)
- Repetitive tasks (50%)
- Bending or twisting (33%)
- Long hours/fatigue (25%)

Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Other findings

- As one might expect, there was a statistically significant relationship between years in practice and injury
- There was **not** a significant difference in injuries to male versus female chiropractors
- However, when injured female chiropractors had a statistically significant increase in time lost in practice as compared to males

Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Procedure Responsible for the Most Injuries

Lumbar side posture adjustments!

Altered Practice Activities

- Change work position (64%)
- Modifying treatment technique (53%)
- Change body mechanics (50%)
- Delegation to other personnel (38%)
- Decreased use of manual techniques (33%)
- Reduced number of patients (21%)
- Reduced working hours (18%)

Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Conclusions

- 57% suffered an occupational injury during their career
- Administering manual manipulation poses the greatest threat of injury (73%)
- Specifically, lumbar manipulation presented the highest risk
- The wrist was most vulnerable to injury (53%) … followed closely by the lumbar spine (50%)
- <u>As a profession which stresses ergonomics, proper body mechanics, and prevention, there is a need to place more emphasis on these issues for ourselves</u>

Rupert & Ebete, The Journal of Chiropractic Education, Vol. 18, No. 1, 2004
www.journalchiroed.com/2004/JCESpring2004PlatformAbstracts.pdf

Follow-up Study

- The 2004 Rupert & Ebete study had some limitations:
  - No considerations of early years in practice
  - No consideration of preexisting injuries
- As such, Ron Rupert and Ndetan Harrison conducted a follow-up study

Prevalence of Injury (Low back, Hand/Wrist)

	Prior to practice	During practice
Low Back	33.5%	28.5%
Hand/Wrist	**6.6%**	**43.6%**

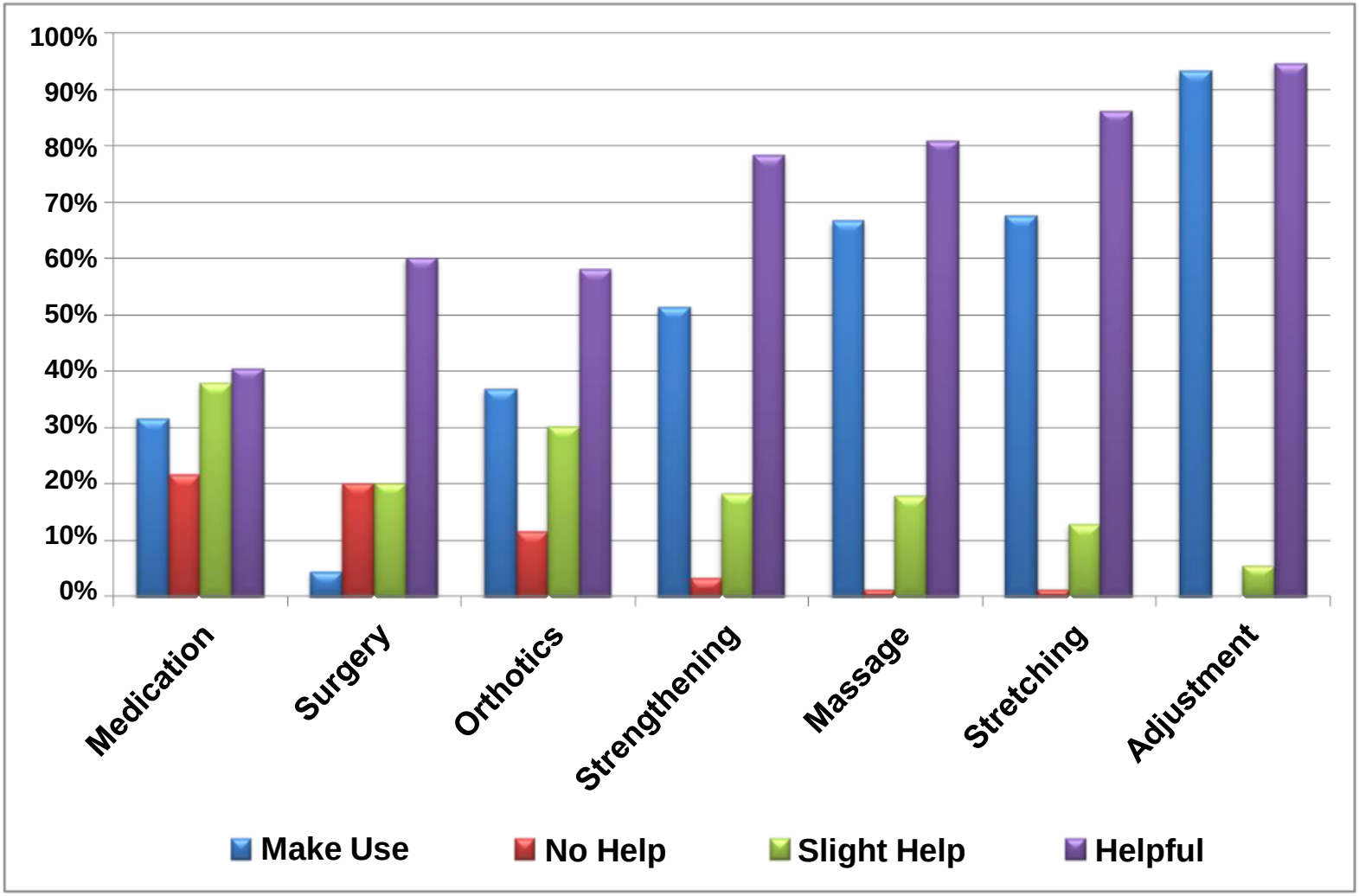
Results

- Most injuries occur within the first year in practice (the first 6 years are high risk)
- Chiropractors get hurt on average 4 times, in their practice life
- Diversified is the most used technique and of course, is the technique most associated with injuries

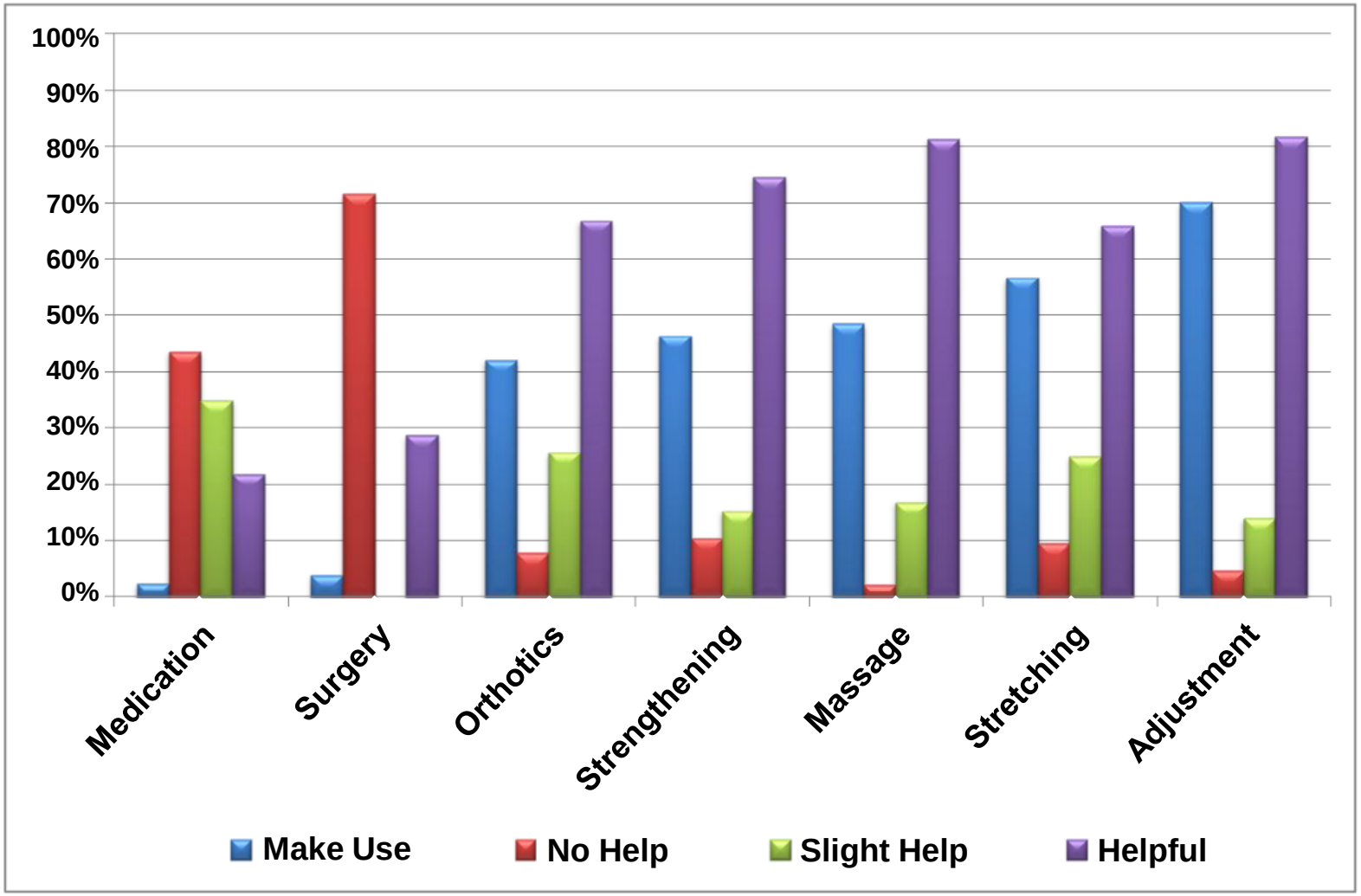
Injury Severity

- Hand/Wrist injuries occur more frequently than low back injuries
- However, when they occur, low back injuries (25.3%) are usually more severe than hand/wrist injuries (8.7%)

Treatment for Low Back Injuries



Treatment for Hand/Wrist Injuries



Work-Related Musculoskeletal Disorders of the Hand and Wrist

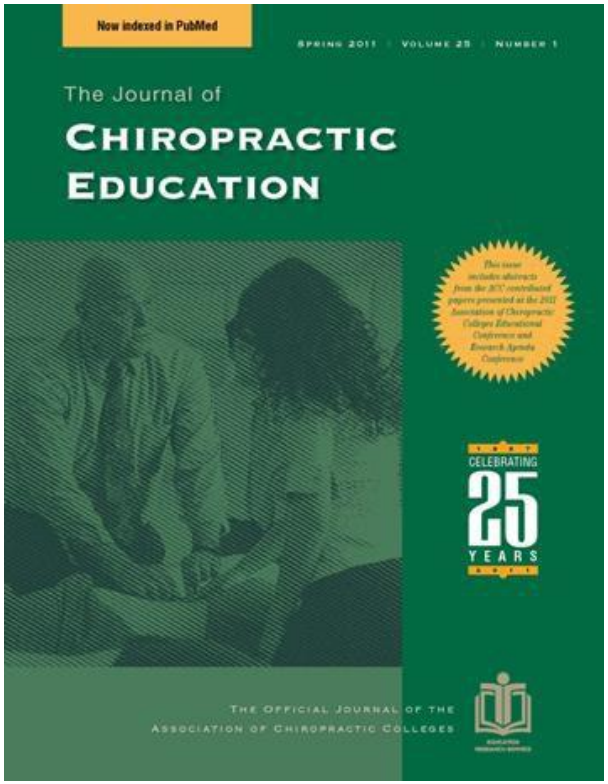
Work-Related MSDs of the Hand and Wrist: Epidemiology, Pathophysiology, and Sensorimotor Changes
Barr et.al. J Orthop Sports Phys Ther. 34(10): 610-627. www.ncbi.nlm.nih.gov/pmc/articles/PMC1557630/

Work-Related MSDs of the Hand and Wrist

- WMSDs of the hand and wrist are associated with the longest absences from work and are, therefore, associated with greater lost productivity and wages than those of other anatomical regions.
- Repetitive, hand-intensive movements, alone or in combination with other physical, nonphysical, and nonoccupational risk factors, contribute to the development of hand/wrist WMSDs.

Work-Related MSDs of the Hand and Wrist: Epidemiology, Pathophysiology, and Sensorimotor Changes
Barr et.al. J Orthop Sports Phys Ther. 34(10): 610-627. www.ncbi.nlm.nih.gov/pmc/articles/PMC1557630/

Occupational Injuries to Practicing Chiropractors in New York State



Homack, The Journal of Chiropractic Education, Vol. 19, No. 1, 2005
http://www.journalchiroed.com/2005/JCESpring2005PlatformAbstracts.pdf

Epidemiology of Chiropractic Injuries

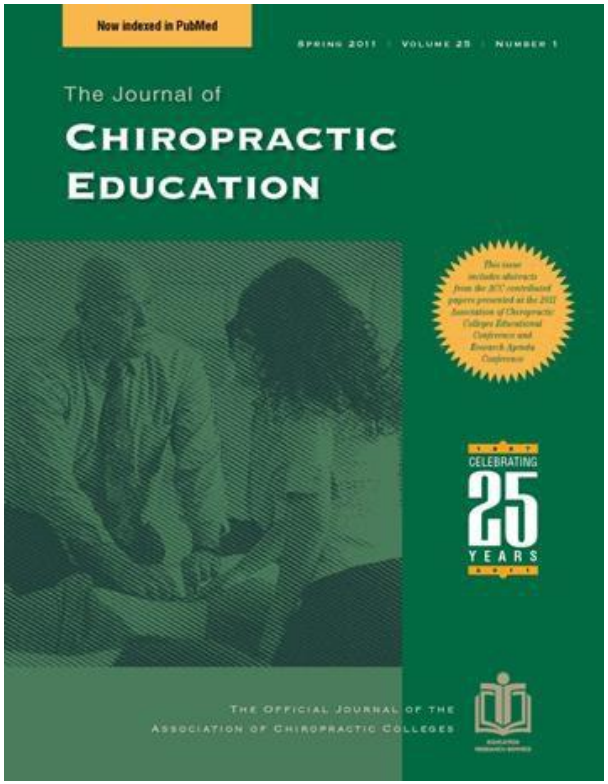
- Not unlike all other health care professionals, patient handling is a significant risk for occupational injuries to chiropractors
- The added stresses incurred by the manual means used by chiropractors most often to treat their patients contribute significantly to the type and severity of these injuries
- Preliminary analysis of the amount of time lost from work suggests reluctance by doctors of chiropractic to take time off and a propensity to work through injuries

Homack, The Journal of Chiropractic Education, Vol. 19, No. 1, 2005
http://www.journalchiroed.com/2005/JCESpring2005PlatformAbstracts.pdf

The Healthy Chiropractor

Issues Besides Physical Health

Financial Attitudes Among Chiropractic Students



Financial experience, knowledge and attitudes among chiropractic students in college
Zang et.al. http://www.journalchiroed.com/2003/JCEFall2003Zhang.pdf

2003 JCE Study

- 324 students
- 166 Logan (36.1% female)
- 158 Parker (26.6% female)
- Gender had no effect on income expectations

Financial experience, knowledge and attitudes among chiropractic students in college
Zang et.al. http://www.journalchiroed.com/2003/JCEFall2003Zhang.pdf

Student Debt upon Graduation

Logan		Parker	
Less than $30K	7.2%	Less than $30K	3.2%
$30 – 50K	5.4%	$30 – 50K	4.4%
$50 – 100K	28.9%	$50 – 100K	20.9%
Over $100K	**58.4%**	Over $100K	**71.5%**

Financial experience, knowledge and attitudes among chiropractic students in college
Zang et.al. http://www.journalchiroed.com/2003/JCEFall2003Zhang.pdf

Student's Goal of Financial Success
Net income after **5 years** in practice

Logan		Parker	
$50,000	1.8%	$50,000	0.6%
$100,000	**32.5%**	$100,000	20.3%
$250,000	31.9%	$250,000	**31.7%**
Over $250,000	17.5%	Over $250,000	26.0%
Early retirement	13.9%	Early retirement	19.0%

Financial experience, knowledge and attitudes among chiropractic students in college
Zang et.al. http://www.journalchiroed.com/2003/JCEFall2003Zhang.pdf

From Research Conducted at Parker CC

2002 Student Survey Income Expectations

- 691 surveys and 516 students completed the survey (75% response rate)

Financial Expectation of PCC students NET Income after **One** Year in Practice

When Students were Tri 1		**Same Students in Tri 5**	
Less than $50K	15.6%	Less than $50K	9.1%
$50 – 100K	**68.8%**	$50 – 100K	**64.6%**
$100 – 200K	10.1%	$100 – 200K	14.1%
$200 – 300K	1.8%	$200 – 300K	4%
Over $300K	1.8%	Over $300K	8.1%

Financial Expectation of PCC students NET Income after **Five** Years in Practice

When Students were Tri 1		**Same Students in Tri 5**	
$50 – 100K	16.5%	$50 – 100K	9.1%
$100 – 200K	**45.0%**	$100 – 200K	37.4%
$200 – 300K	20.2%	$200 – 300K	**24.2%**
Over $300K	16.5%	Over $300K	**29.3%**

2016 Bureau of Labor Statistics

- In 2016, the mean annual chiropractor wage was $81,210
- 25% of chiropractors have incomes in excess of $96,770
- 10% of chiropractors have incomes in excess of $141,030

http://www.bls.gov/oes/current/oes291011.htm

Student Expectations vs. 2003 McDonald Study

Tri 5 Students: Net Expected Earnings after 5 Years in Practice	
Less than $100K	9.1%
$100 – 200K	37.4%
Over $200K	**53.5%**

National Average Net Earnings (All years of Practice)	
Less than $100K	**55.8%**
$100 – 200K	33.5%
Over $200K	10.8%

2015 Chiropractic Economics

18th Annual Salary & Expense Survey

Average gross billings	$539,046
Average gross collections	$348,773
Average DC salary	**$89,219**
Average DC total compensation	$122,243

Total compensation includes: retirement contributions, paid time off, health care benefits, bonuses, and profit sharing.

http://www.chiroeco.com/cms/wp-content/uploads/SE_Survey_2015.pdf

Chiropractic Economics Survey Clinic Characteristics

Urban	29.3%
Suburban	49.8%
Rural	20.9%
Employees	3.5
Average PVA	26.0
Average patients/week	113.4
Average new patients/week	7.0
Cash practice	12.3%

http://www.chiroeco.com/cms/wp-content/uploads/SE_Survey_2015.pdf

Chiropractic Economics Survey Personal Characteristics

Average age	47.0
Male	78.2%
Female	21.8%
Years in practice	18.9
Solo DC	62.8%
In a group or partnership	27.1%
Associate	9.6%
Franchise owner	0.5%

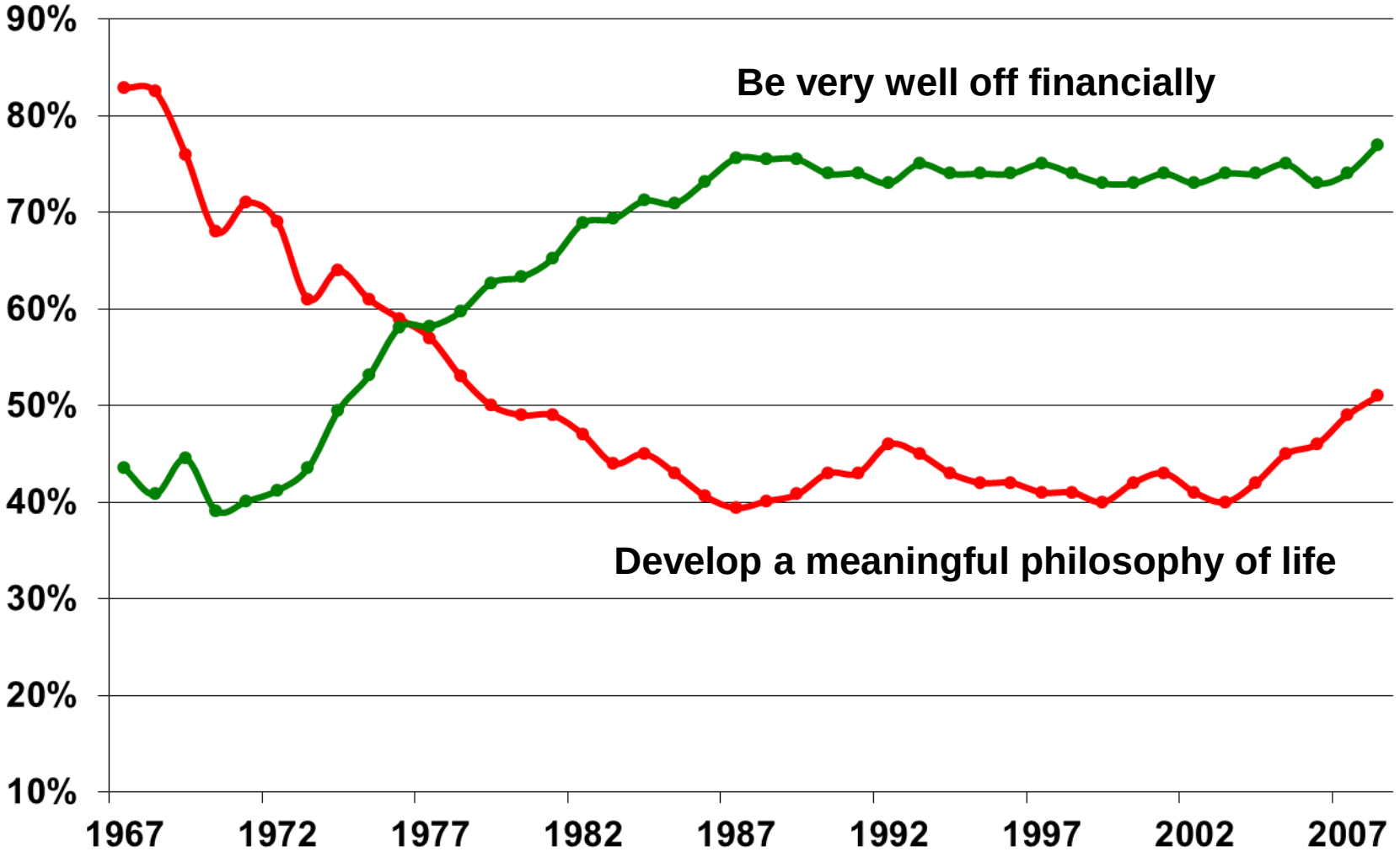
http://www.chiroeco.com/cms/wp-content/uploads/SE_Survey_2015.pdf

Money

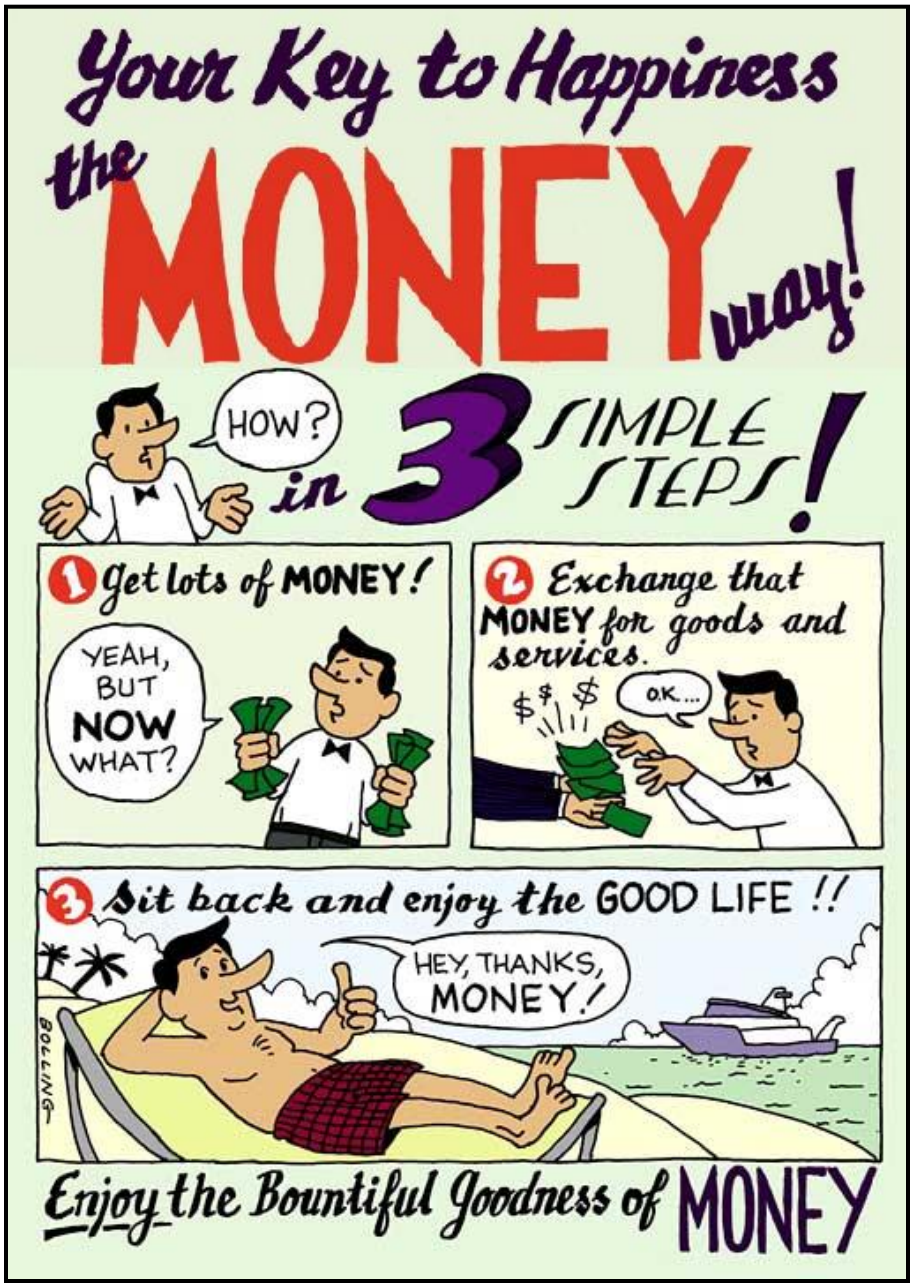
Is this really
what you want?
or Happiness?

Altruism vs. Materialism

College Freshman saying Goal is “Very important” or “Essential”



http://www.docstoc.com/docs/74759326/The-Pursuit-of-Happiness


Your Key to Happiness
the MONEY way!
HOW?
in 3 SIMPLE STEPS!
1 Get lots of MONEY!
YEAH, BUT NOW WHAT?
2 Exchange that MONEY for goods and services.
$ $ $
O.K....
3 Sit back and enjoy the GOOD LIFE !!
HEY, THANKS, MONEY!
BOLLING
Enjoy the Bountiful Goodness of MONEY

http://www.docstoc.com/docs/74759326/The-Pursuit-of-Happiness

The Social Context of Well-Being

- Although real per capita incomes have quadrupled in the past 50 years in most advanced economies, aggregate levels of subjective well-being have remained essentially unchanged.
- Money can buy you happiness, but not much, and above a modest threshold, more money does not mean more happiness. Moreover, some evidence strongly suggests that, in fact, it is relative income, not absolute income, that matters most.
- It is not my income itself that makes me happy, but rather a favourable comparison between my income and yours.

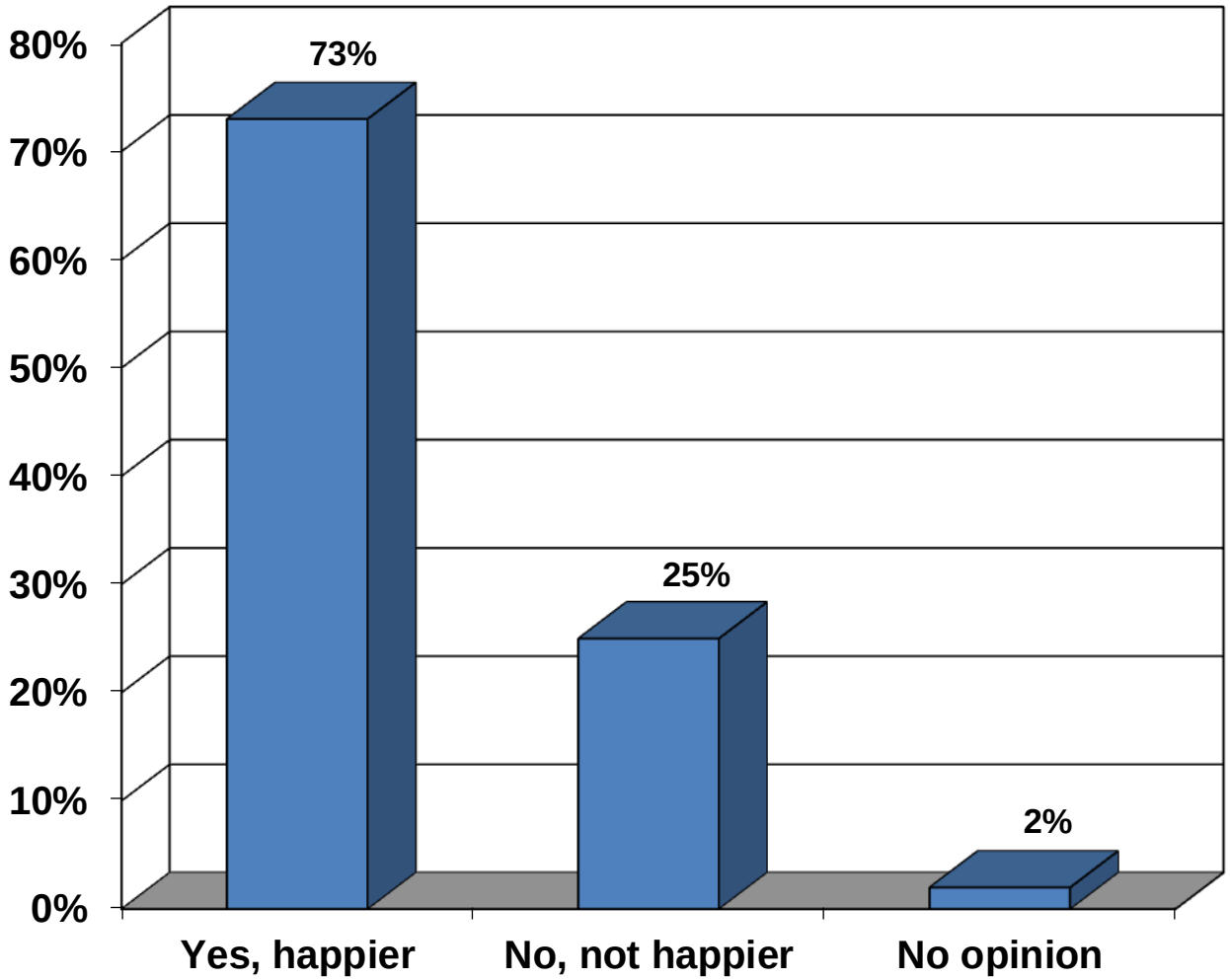
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1693420/

Working More to Buy More

- There is, we assume, a connection between fiscal fitness and feeling fine, an assumption that feeds what Juliet Schor has called the "cycle of work and spend" working more to buy more.
- According to one 1990s Gallup Poll, one in two women, two in three men, and four in five people earning more than $75,000 a year say they would like to be richer.

http://www.yesmagazine.org/30goodlife/myers.htm

Would you be happier if you made more money?
(Gallup Survey, July, 2006)



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Would you be happier if you were richer?

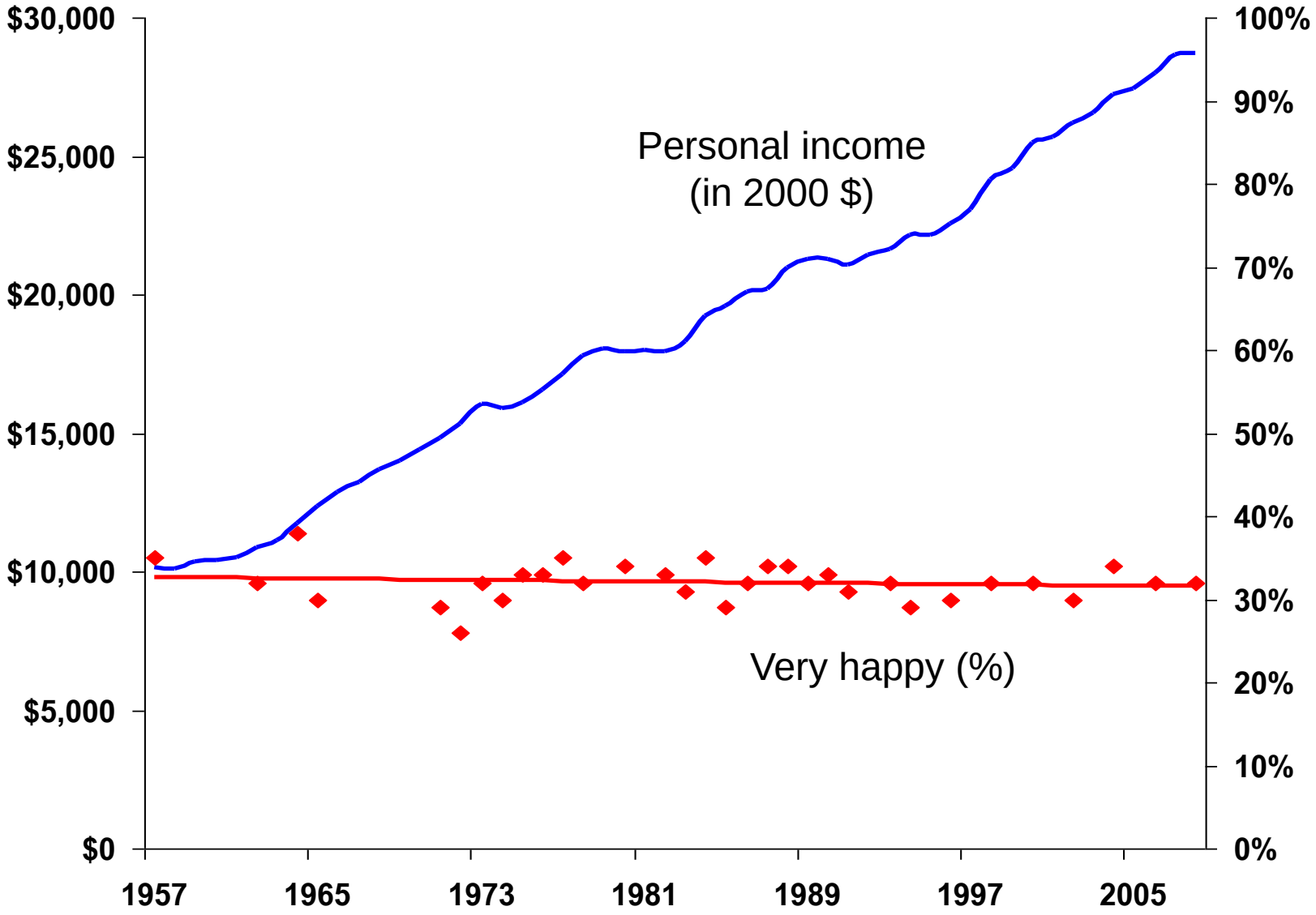
- The belief that high income is associated with good mood is widespread but mostly illusory.
- People with above-average income are relatively satisfied with their lives but are barely happier than others in moment-to-moment experience, tend to be more tense, and do not spend more time in particularly enjoyable activities.
- Moreover, the effect of income on life satisfaction seems to be transient.

Science. 2006 Jun 30;312(5782):1908-10. http://www.ncbi.nlm.nih.gov/pubmed/16809528

Link Between Income and Happiness is Mainly an Illusion

- "Despite the weak relationship between income and global life satisfaction or experienced happiness, many people are highly motivated to increase their income."
- "In some cases, this focusing illusion may lead to a misallocation of time, from accepting lengthy commutes (which are among the worst moments of the day) to sacrificing time spent socializing (which are among the best moments of the day)."

www.princeton.edu/main/news/archive/S15/15/09S18/index.xml



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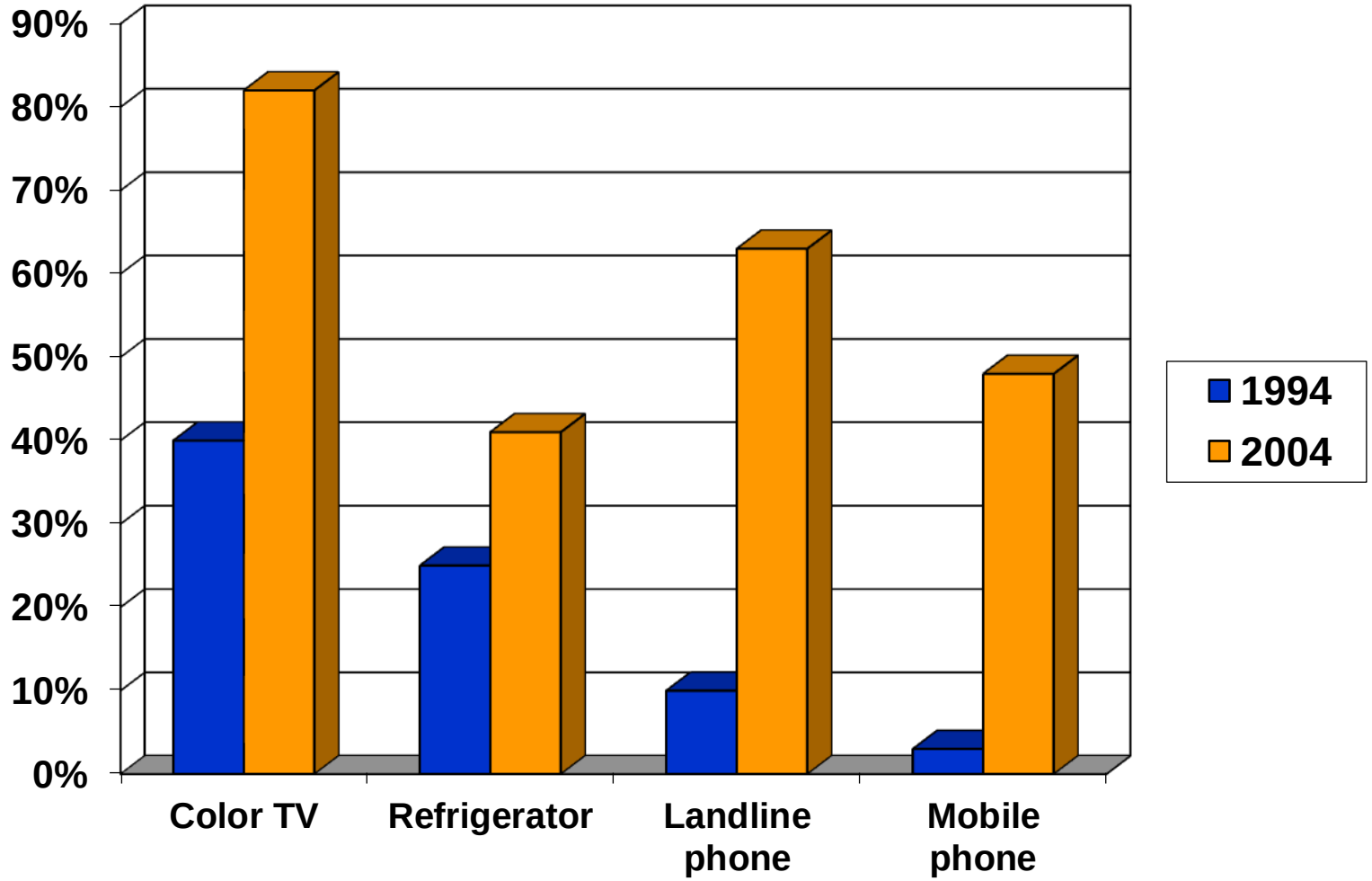
China's households, 1994 and 2004
(Gallup nationwide surveys)



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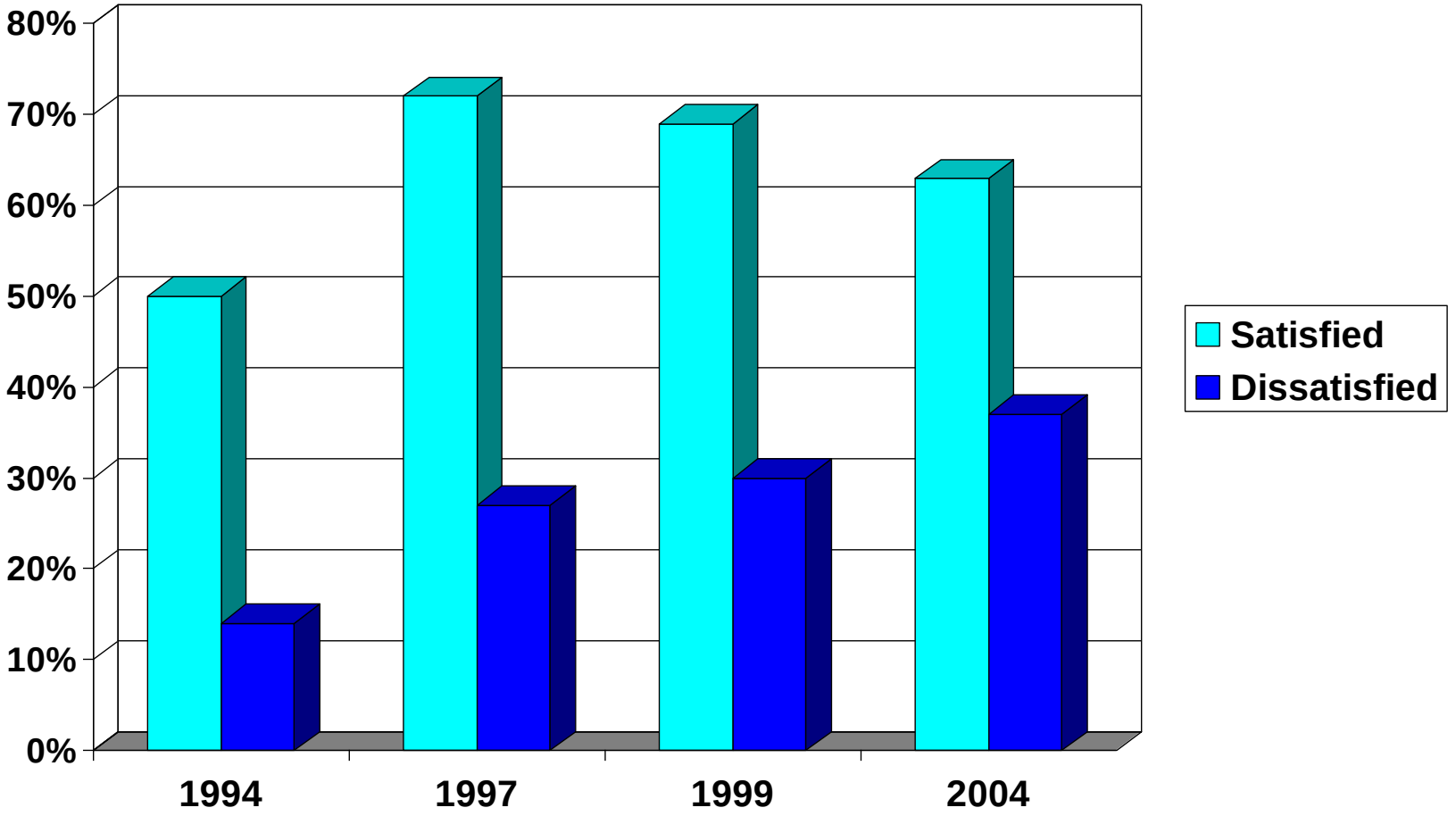
Chinese satisfaction, 1994 and 2004

"How satisfied or dissatisfied are you with the way things are going in your life today?"



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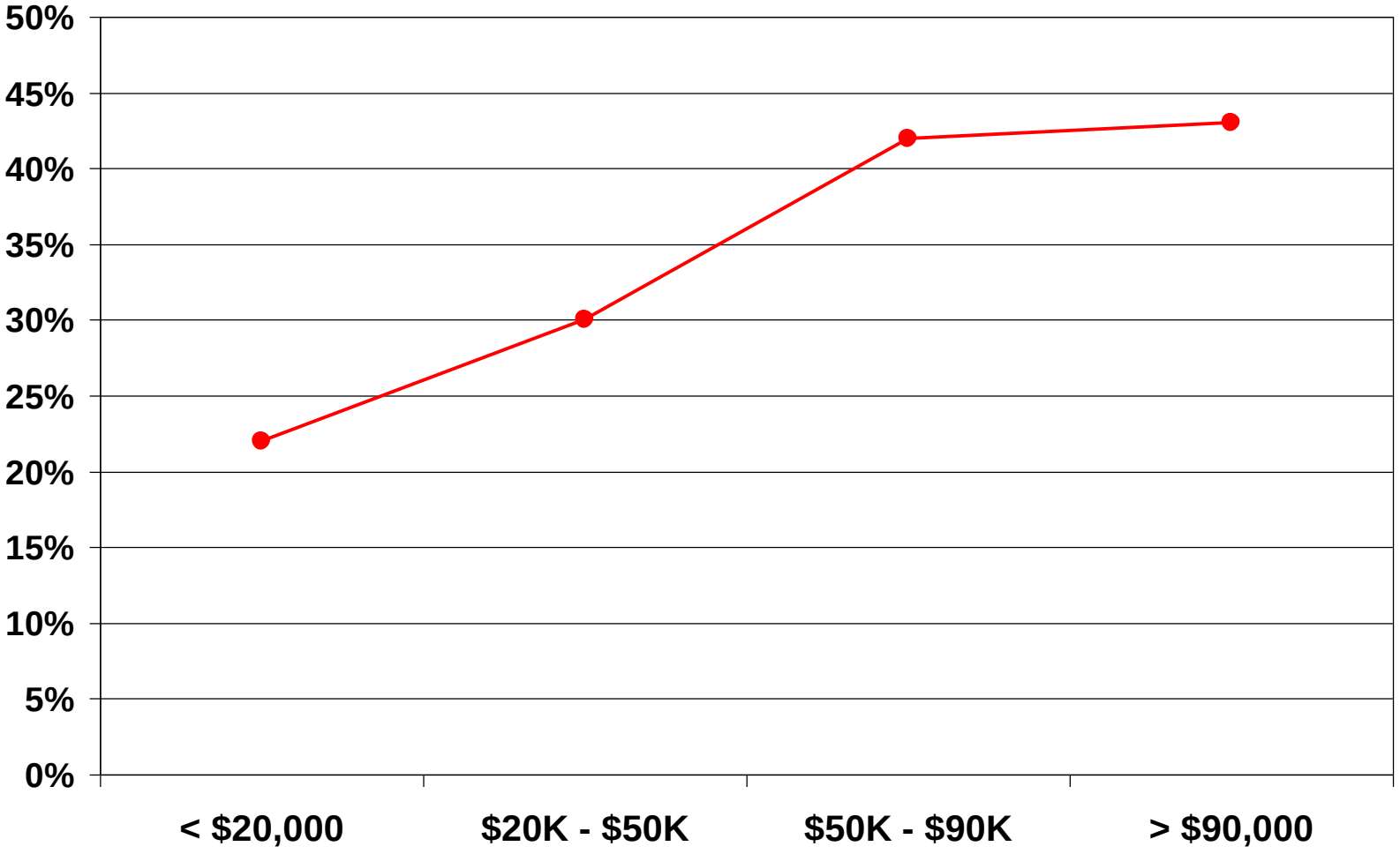
Americans "very happy"
(NORC, 2004)



http://www.docstoc.com/docs/74759326/The-Pursuit-of-Happiness

Income vs. Emotional Well-Being

KEY

Positive affect:

Reporting happiness, smiling, and enjoyment

"Not blue":

Not reporting worry and sadness

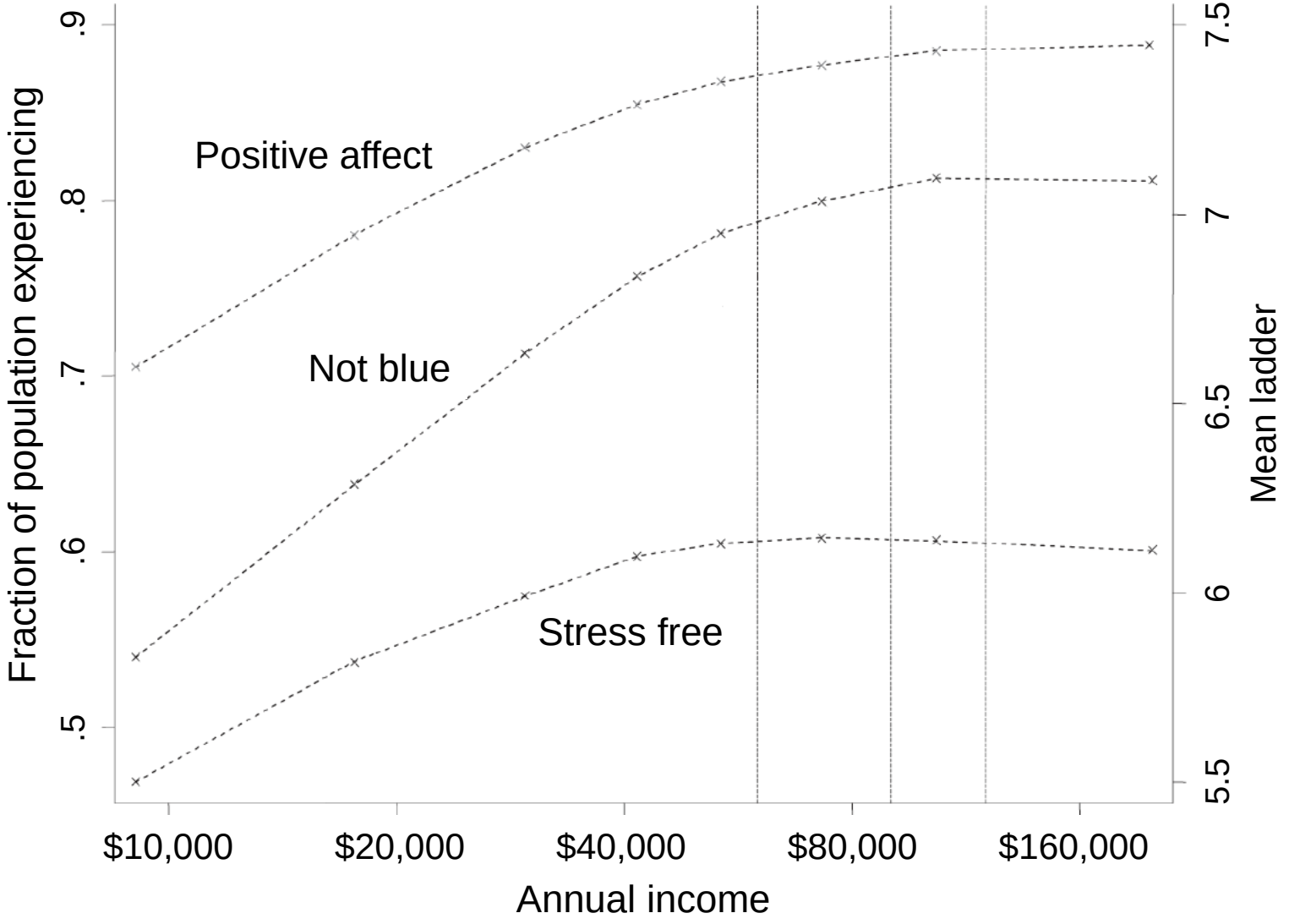
"Stress free":

Did not report stress for the previous day

"We infer that beyond about $75,000/y, there is no improvement whatever in any of the three measures of emotional well-being."

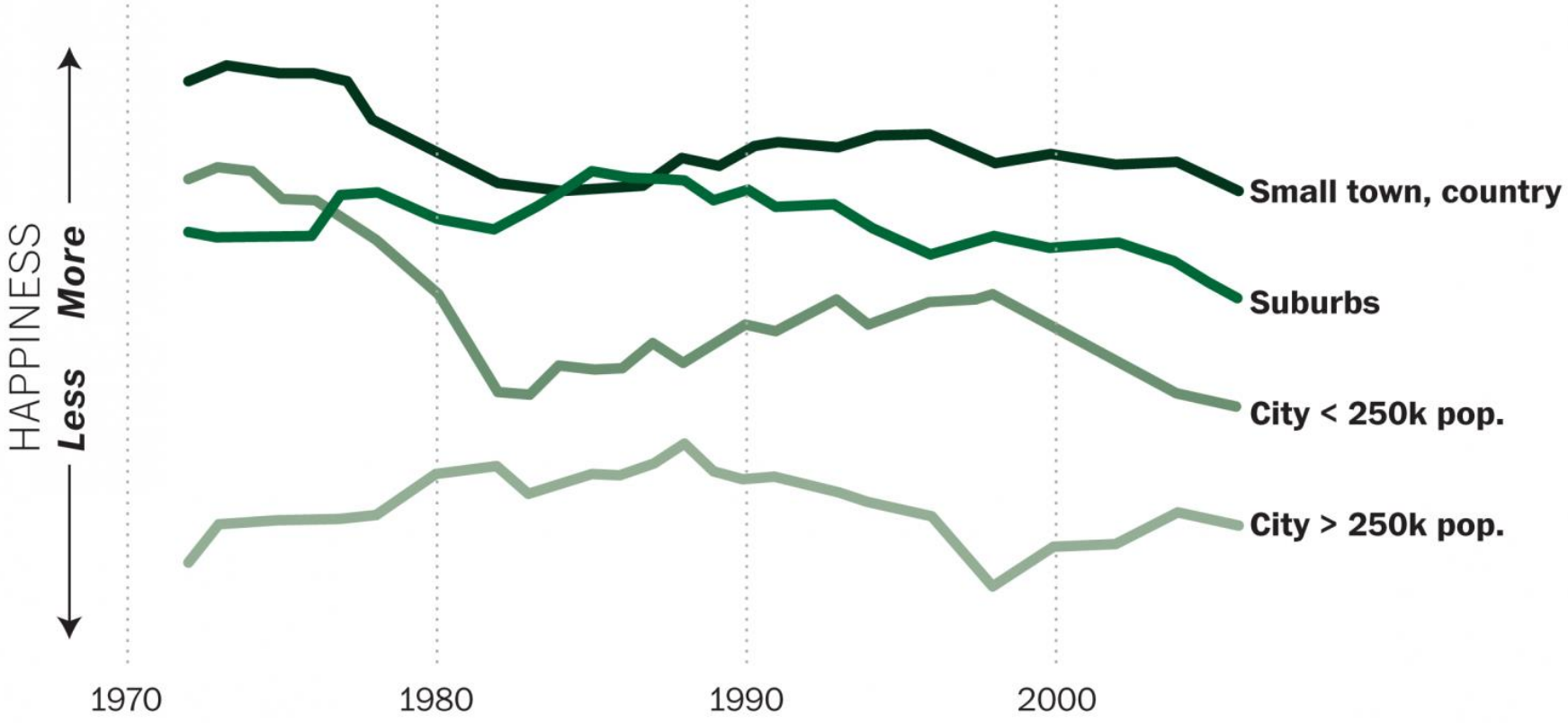
High income improves evaluation of life but not emotional well-being
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2944762/

Income vs. Emotional Well-Being



http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2944762/

Urban vs. Rural Happiness



People who live in more densely populated areas tend to report less satisfaction with their life overall

https://www.washingtonpost.com/news/wonk/wp/2016/03/18/why-smart-people-are-better-off-with-fewer-friends/

The American Paradox

- More than ever, we find ourselves with:
  - Big houses and broken homes
  - High incomes and low morale
  - Secured rights and diminished civility
- We excel at making a living,
  - but too often fail at making a life
- We celebrate our prosperity,
  - but yearn for purpose
- We cherish our freedoms,
  - but long for connection

http://www.yesmagazine.org/30goodlife/myers.htm

The American Paradox

- What's the point of accumulating:
  - Stacks of unplayed CD's
  - Closets full of seldom worn clothes
  - Three-car garages with luxury cars
- All purchased in a vain quest for an elusive joy?
- And what's the point of leaving significant inherited wealth to one's heirs, as if it could bring them happiness, rather than applying it to a hurting world?

http://www.yesmagazine.org/30goodlife/myers.htm

An Indian philosopher said:

"The quantity of riches one must earn can be compared to the shoes one wears; if too small, they cause pain; if too big, they are a hindrance while walking."

THIS IS THE GOLD YOU SHOULD STRIVE TO ACCUMULATE

Guard Your
Professional
Reputation
like it is GOLD

If your reputation becomes tarnished in the community or with Insurance companies, it is very hard to restore.

Prevention Strategies

Applying what we now know to insure a long rewarding career

Treatment Tables

Biomechanical studies support considering:

- Treatment tables that do not require excessive and repeated bending (low tables)
- Table and room layout that does not contribute to working in awkward or cramped positions
- 25% of chiropractors (Canadian Study) believed that table height contributed to their LBP
- Table height can perhaps be an even more significant factor contributing to wrist injuries

FACT SHEET 4

Tax Incentives for Improving Accessibility

ADA
TITLE III
COMPLIANCE MATERIALS

The **tax credit,** established under Section 44 of the Internal Revenue Code, was created in 1990 specifically to help small businesses cover ADA-related "eligible access expenditures." A business that for the previous tax year had either revenues of $1,000,000 or less **or** 30 or fewer full-time workers may take advantage of this credit. The credit can be used to cover a variety of expenditures, including:

- purchase of adaptive equipment

The amount of the tax credit is equal to 50% of the eligible access expenditures in a year, up to a maximum expenditure of $10,250. There is no credit for the first $250 of expenditures. The maximum tax credit, therefore, is $5,000.

Bottom Line: The government will pay for half of that $10,000 high-low table!

http://www.ada.gov/archive/taxpack.pdf

Technique and Proficiency

- Develop high proficiency with at least one technique
  - Use that technique on large patients and difficult to adjust patients
- Consider treatment tables with drop pieces to minimize the force you will need to use in adjusting patients
- Consider Activator or other instrument based adjusting tools with high risk patients to protect yourself

Drop Table Technique

- The Drop table is a tool, just like an Activator adjusting instrument.
- While you should learn the methods taught by the originator of the technique, you can also apply your knowledge of biomechanics and create your own methods to mobilize joint restrictions.

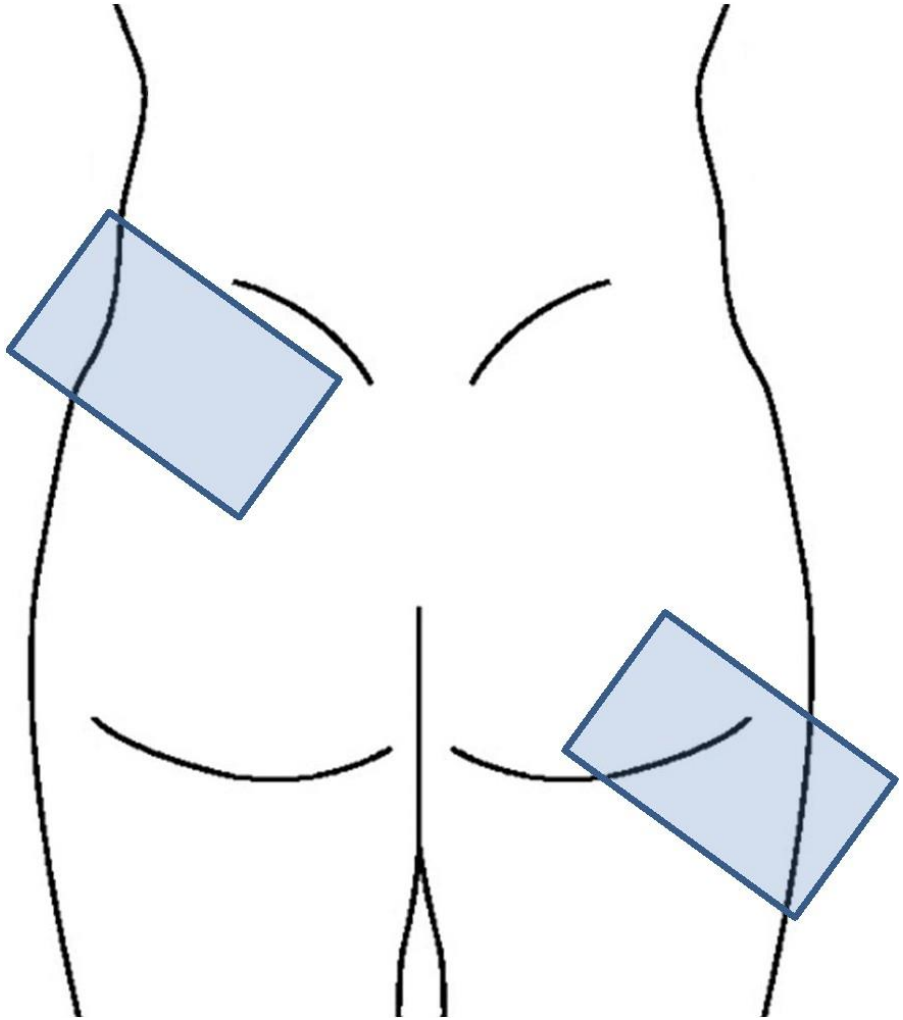
Drop Table Technique for PI Ilium

- The patient is supine on the table with the pelvic drop raised.
- Place a thenar contact over the acetabulum of the PI side. Place the thenar eminence of your other hand over the ASIS of the AS side.
- With both hands introduce downward pressure. When you reach resistance, impulse downward with both hands. When the drop piece releases and stops suddenly, motion is introduced into both SI joints.
- This adjustment is very comfortable for your patient, and very effective in mobilizing SI joint restrictions.

Biomechanical use of the SOT blocks

- Even if you do not use all of SOT technique, using the blocks to achieve biomechanical correction is very helpful in practice
- Use your leg checks and other indicators to determine which side is PI and which is AS

Prone SOT blocking for Right PI Ilium



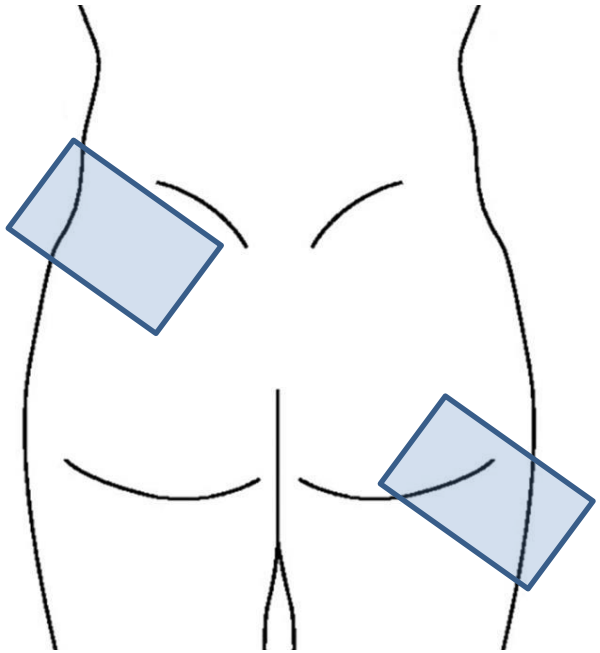
Indicators for SOT Block Placement

AS Ilium	PI Ilium
Long leg	Short leg
Lesser Achilles heel tension	Greater Achilles heel tension
PSIS palpates superior	PSIS palpates inferior
Flex both legs toward the buttocks, heel on AS side is closer to buttocks	Flex both legs toward the buttocks, heel on PI side is further from buttocks

Usually there is a preponderance of the indicators with at least 3 indicators consistent with each other

Biomechanical use of the SOT blocks

- Block the patient in the prone position with the inferior block under the acetabulum of the PI side, and the superior block under the ASIS of the AS side
- Leave the patient on the blocks for 5-10 minutes. You can use this time to perform trigger point massage or some other therapy



Biomechanical use of the SOT blocks

- Before you take the blocks out, dorsiflex the feet one at a time to stretch the Achilles tendons
- Also counter-torque the SI joints before removing the blocks, specifically:
  - Place the heel of one hand on the PSIS of the inferior block side, and the heel of the other hand on the ischial tuberosity of the superior block side
  - Apply gentle stretching pressure with a light impulse at the end

Biomechanical use of the SOT blocks

- Try this experiment: On your next patient with an SI joint restriction, use the blocks instead of your usual osseous side posture correction
- After the adjustment, recheck the SI motion. You might be surprised at how well this technique mobilizes the SI joints
- Most patients really like this method of adjusting, and your patient might say,

"You mean I didn't need to get wrapped up like a pretzel all these years?"

Injury Prevention

- There is a high risk of injury associated with chiropractic practice!
- We have identified the primarily sites of injury as the wrist and low back
- The cause appears to be the repetitive nature of giving adjustments
- Side posture manipulation is by far the most risky procedure

Protect Your Body

- Know the structures that are most commonly injured (wrist & low back) and protect those areas
- Consider exercises to maintain flexibility and strength
- Consider orthotic supports for vulnerable areas
- This is especially true if you are entering practice with preexisting injuries

Think of Prevention in Biomechanical Terms

- Minimize the **number of times** you are in lumbar flexion
- As well as the **amount of time** you are in flexion (especially when lateral bending is involved)
- Get proper rest to minimize residual disc creep
- Don't get careless … use proper form when giving an adjustment (or exam procedure)

Inversion Therapy
May Help to Prevent Disc Injury

Summary

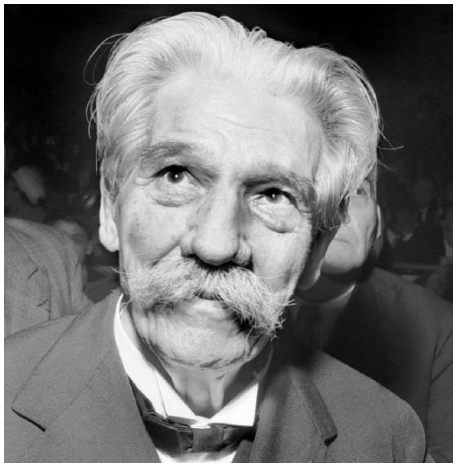
- There are a number of prevention strategies that should be considered to insure a long career as a chiropractor
  - Proper biomechanics
  - Exercise
  - Weight management
  - Equipment
  - Techniques
  - Etc.

Office Considerations

- Plan your office layout so that treatment rooms are not cramped for space
- Acquire and use devices to protect yourself and your staff including:
  - Walkers, crutches, etc.
  - Folding wheelchair
  - Hand rails

Summary

- Financial stress and setting unrealistic goals can contribute to practice burnout, depression, and impair your ability to practice
- Look at the facts and get input from many sources to help you make wise financial decisions
  - Do you want it?
  - Do you need it?
  - Is it worth it?



Dr. Albert Schweitzer 1952 Nobel Peace Prize

"Success is not the key to happiness. Happiness is the key to success. If you love what you are doing, you will be successful."